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ATTORNEY DOCKET NO. 10021131-01

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Inventor(s): John H. Monk

Serial No.: 10/751,723   Examiner: Jeffrey Rutkowski

Filing Date: January 5, 2004   Group Art Unit: 2619

Title: SYSTEMS AND METHODS FOR CHARACTERIZING PACKET-SWITCHING NETWORKS

COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria VA 22313-1450

TRANSMITTAL OF APPEAL BRIEF

Sir:

Transmitted herewith is the Appeal Brief in this application with respect to the Notice of Appeal filed on 15 January 2008 .

The fee for filing this Appeal Brief is (37 CFR 1.17(c)) **$510.00.**

(complete (a) or (b) as applicable)

The proceedings herein are for a patent application and the provisions of 37 CFR 1.136(a) apply.

☒ (a) Applicant petitions for an extension of time under 37 CFR 1.136 (fees: 37 CFR 1.17(a)(1)-(5)) for the total number of months checked below:

☐	one month	$ 120.00
☐	two months	$ 450.00
☐	three months	$1020.00
☐	four months	$1590.00

☐ The extension fee has already been filled in this application.

☐ (b) Applicant believes that no extension of term is required. However, this conditional petition is being made to provide for the possibility that applicant has inadvertently overlooked the need for a petition and fee for extension of time.

Please charge to Deposit Account **50-1078** the sum of **$510.00** . At any time during the pendency of this application, please charge any fees required or credit any overpayment to Deposit Account **50-1078** pursuant to 37 CFR 1.25.

A duplicate copy of this transmittal letter is enclosed.

☐ I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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☒ I hereby certify that this paper is being facsimile transmitted to the Patent and Trademark Office on the date shown below.

Date of Facsimile: March 31, 2008

Typed Name: William S. Francos

Signature:_____

Respectfully submitted,

John H. Monk

By _____
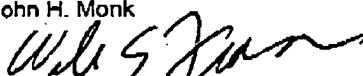
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IN THE UNITED STATES
PATENT AND TRADEMARK OFFICE

Appl. No. : 10/751,723
Applicant(s): John M. Monk
Filed: January 5, 2004
TC/A.U.: 2600/2619
Examiner: Jeffrey M. Rutkowski
Atty. Docket: 10021131-01
Confirmation No.: 2252
Title: SYSTEMS AND METHODS FOR CHARACTERIZING
    PACKET-SWITCHING NETWORKS

APPEAL BRIEF

Honorable Assistant Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In connection with the Notice of Appeal dated January 15, 2008, Applicant

provides the following Appeal Brief in the above-captioned application.

TABLE OF CASES

1. *In re Zletz,* 893 F.2d 319, 13 USPQ2d 1320 (Fed. Cir. 1989).

2. *In re Beauregard,* 53 E.3d 1583, 1584 (Fed. Cir. 1995).

3. *In re Paulsen,* 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994).

4. *In re Spada,* 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990).

5. *W.L. Gore & Assoc., Inc. v. Garlock, Inc.,* 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983).

6. *Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.,* 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992).

7. *Scripps Clinic & Res. Found. v. Genentech, Inc.,* 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

1. Real Party in Interest

The real party in interest as assignee of the entire right and title to the invention described in the present application is Agilent Technologies, Inc., having a principle place of business at 5301 Stevens Creek Blvd, Santa Clara, CA USA.

2. Related Appeals and Interferences

There are no known related appeals or interferences at this time.

3. Status of the Claims

Claim 1-24 are pending in this application. No claims are withdrawn from consideration. Claims 1-24 are the subject of the present Appeal. Claims 1-24 are finally rejected, and are duplicated in the Appendix.

4. Status of the Amendments

A final Office Action on the merits was mailed on October 15, 2007. There are no pending amendments with respect to this application.

5. Summary of the Claimed Subject Matter[1]

In accordance with an embodiment, a packet-network analyzer system (Fig. 1, 100), including a host analyzer (Fig. 1, 105) communicatively coupled to a first client analyzer (Fig. 1, 110), wherein the host analyzer (105) incorporates a neural processing module (Figs. 4 and 6, 410) to process raw digital data provided to the host analyzer (105) by the first client analyzer (110) for characterizing a packet-network-under-test (Figs. 1, 120) that is connected to the first client analyzer (110). (Kindly refer to paragraphs [0023] through [0024], paragraph [0026], paragraph [0033], paragraphs

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[1] In the description to follow, citations to various reference numerals, drawings, and corresponding text in the specification are provided solely to comply with Patent Office rules. It is emphasized that these reference numerals, drawings, and text are representative in nature, and not in any way limiting of the true scope of the claims. It would therefore be improper to import anything into any of the claims simply on the basis of illustrative language that is provided here only under the obligation to satisfy Patent Office rules for maintaining an Appeal.

Agilent.0079   Docket No. 10021131-01

PAGE 4/25 * RCVD AT 3/31/2008 8:58:36 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-4/8 * DNIS:2738300 * CSID:610 3758380 * DURATION (mm-ss):07-22

[0036] through [0038], paragraphs [0041] through [0042], as well as claim 1, Figs. 1, 2, 4 and 6, for further details.)

In accordance with another embodiment, a method (Fig. 8) for analyzing a packet-network-under-test (Fig. 1, 120; Fig. 2, 235) includes receiving raw digital data (Fig. 8, 805) that is derived from a packet-network-under-test; generating a selected data set from the received raw digital data (Fig. 8, 810); generating a normalized data set from the selected data set (Fig. 8, 815); and processing the normalized data set in a neural network to generate a set of rules and relationships (Fig. 8, 820). The method also includes using the set of rules and relationships for mining the selected data set to generate a mined data set (Fig. 8, 825); and using the mined data set to characterize the packet-network-under-test (Fig. 8, 830). (Kindly refer to paragraphs [0036] through [0038], paragraphs [0041] through [0042] and paragraph [0052], as well as claim 11, Figs. 1, 2, 4, 6 and 8, for further details.)

In accordance with another embodiment, a packet-network analyzer system (Fig. 1, 100; Fig. 2, 200; Fig. 7, 105) stored on a computer-readable medium (Fig. 7, 705, 707, 720) includes logic configured to receive raw digital data that is derived from a packet-network-under-test (Fig. 4, 425; Fig. 7, 720; Fig. 8, 805); logic configured to generate a selected data set from raw digital data of the packet-network-under-test (Fig. 4, 420; Fig. 7, 730; Fig. 8, 810); logic configured to generate a normalized data set from the selected data set (Fig. 4, 415; Fig. 7, 733; Fig. 8, 815); and logic configured to process the normalized data set in a neural network to generate a set of rules and relationships (Fig. 4, 410; Fig. 6, 610, 615; Fig. 7, 732; Fig. 8, 820). The packet-network analyzer also includes logic configured to use the set of rules and relationships for mining the selected data set to generate a mined data set (Fig. 4, 405; Fig. 7, 731; Fig. 8, 825); and logic configured to use the mined data set to characterize the packet-network-under-test (Fig. 4, 405; Fig. 7, 731; Fig. 8, 825). (Kindly refer to paragraphs [0036] through [0038], paragraphs [0041] through [0042], paragraphs [0047] through [0049], paragraph [0050], and paragraph [0052], as well as claim 17, Figs. 1, 2, 4, 6 7 and 8, for further details.)

In accordance with another embodiment, a packet-network analyzer system (Fig. 1, 100; Fig. 2, 200; Fig. 7, 105) stored on a computer-readable medium (Fig. 7, 705, 707,

720) includes means for receiving raw digital data that is derived from a packet-network-under-test (Fig. 4, 425; Fig. 7, 720; Fig. 8, 805); means for generating a selected data set from raw digital data of the packet-network-under-test (Fig. 4, 420; Fig. 7, 710, 730; Fig. 8, 810); means for generating a normalized data set from the selected data set (Fig. 4, 415; Fig. 7, 710, 733; Fig. 8, 815); and means for processing the normalized data set using a neural network to generate a set of rules and relationships (Fig. 4, 410; Fig. 6, 610, 615; Fig. 7, 710, 732; Fig. 8, 820). The packet-network analyzer also includes means for using the set of rules and relationships for mining the selected data set to generate a mined data set (Fig. 4, 405; Fig. 7, 710, 731; Fig. 8, 825); and means for using the mined data set to characterize the packet-network-under-test (Fig. 4, 405; Fig. 7, 710, 731; Fig. 8, 825). (Kindly refer to paragraphs [0036] through [0038], paragraphs [0041] through [0042], paragraphs [0047] through [0049], paragraph [0050], and paragraph [0052], as well as claim 17, Figs. 1, 2, 4, 6 7 and 8, for further details.)

6. Grounds of Rejection to be Reviewed on Appeal

The issues in the present matter are whether:

I. The specification is properly objected to on the grounds that paragraph [0050] discloses paper upon which a computer program is printed as a computer-readable medium.

II. Claims 3-7, 9, 10, 12, 14, 18 and 19 are properly objected to because of their use of acronyms.

III. Claims 17-24 are properly rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter.

IV. Claims 1, 2, 11, 17 and 21 are properly rejected under 35 U.S.C. § 102(b) as being anticipated by *Bahadiroglu* (U.S. Patent Application Publication No. 2002/0186660).

V. Claim 3 is properly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bahadiroglu* in view of *Anstey et al.* (U.S. Patent No. 6,639,900).

VI. Claim 4 is properly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bahadiroglu* as modified by *Anstey et al.* further in view of *Schmidt*

(U.S. Patent Application Publication No. 2002/0049720).

VII. Claim 5 is properly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bahadiroglu* further in view of *Anstey et al.* and *Schmidt*

VIII. Claims 6-8 and 10 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bahadiroglu* as modified by *Anstey et al.* and *Schmidt* and further in view of *Adhikari et al.* (U.S. Patent Application Publication No. 2004/0252646).

IX. Claims 9, 12, 18 and 22 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bahadiroglu* and further in view of *Adhikari et al.*

X. Claims 13-16, 19-20 and 23-24 are properly rejected under 35 U.S.C. § 103(a) as being unpatentable over *Bahadiroglu* as modified by *Adhikari et al.* and further in view of *Anstey et al.* and *Schmidt*.

7. Argument

In this portion of the Appeal Brief, arguments are provided. Notably, wherever applicable, Applicant maintains previous arguments for patentability provided in responses to Office Actions.

I. Objection to the Specification

Paragraph [0050] of the specification is objected to based on Applicant's characterization of paper, upon which a program is printed, as "a computer-readable medium." The Examiner argues that paper containing a written program is not a computer-readable medium because the computer is actually reading a digital representation of the paper and not the paper itself. *See* Final Office Action, Pg. 2.

While it is true that the computer is reading a digital representation of the information written on the paper, this is no different than reading a program from any storage device. For example, a computer reads a digital representation of the program from a storage device, compiles the program, interprets or otherwise processes the program if necessary, and then executes and/or stores the program in a computer memory. The only difference in the case of the program being written on paper is the

Agilent.0079

Docket No. 10021131-01

PAGE 7/25 * RCVD AT 3/31/2008 8:58:36 PM [Eastern Daylight Time] * SVR:USPTO-EFXRF-4/8 * DNIS:2738300 * CSID:610 3758380 * DURATION (mm-ss):07-22

means the computer uses to read the stored information, which requires the extra step of optical scanning. Accordingly, Applicant submits that paragraph [0050] is acceptable in its present form, and requests withdrawal of the objection.

II. Objection to Claims 3-7, 9, 10, 12, 13, 18 and 19

Claims 3-7, 9, 10, 12, 13, 18 and 19 are objected to on the grounds that the acronyms ART, CHAID, XML, HTTP and IP are not defined by the claims. However, the claims are to be read in light of the specification, which adequately defines these terms. "When the specification states the meaning that a term in the claim is intended to have, the claim is examined using that meaning ...." MPEP §2173.05(a) (citing *In re Zletz*, 893 F.2d 319, 13 USPQ2d 1320 (Fed. Cir. 1989)).

In particular, the acronyms ART, CHAID, XML, HTTP and IP, to which the Examiner objected, are defined in the specification. For example, the specification defines ART as "adaptive resonance theory" in paragraph [0041], CHAID as "chi-squared automatic interaction detector" in paragraph [0042], XML as "extensible markup language" in paragraph [0018], HTTP as "hyper text transport protocol" in paragraph [0027], and IP as "internet protocol" in paragraph [0002]. Further, these acronyms are well known in the art and do not create ambiguity as to the metes and bounds of the claimed invention. Accordingly, because the acronyms ART, CHAID, XML, HTTP and IP are adequately defined in the specification and well known to one reasonably skilled in the art, Applicant respectfully requests withdrawal of the objections.

III. Rejection under 35 U.S.C. § 101

Claims 17-24 are rejected under 35 U.S.C. § 101 as being directed to non-statutory subject matter. Section 101 provides that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefore, subject to the conditions and requirements of this title."

The Examiner states that the computer readable medium, "as disclosed in the specification includes recording the information on a signal carrier," although signal

carrier does not appear in the claims. *See* Final Office Action, p. 2. The specification provides that a computer readable medium may include any means that can contain or store a computer program for use by or in connection with a computer related system or method. *See* paragraph [0050]. In this context, Applicant claims a packet-network analyzer system stored on a computer-readable medium (claims 17 and 21), which is expressly allowed under *In re Beauregard*, wherein the Commissioner of Patents and Trademarks stated "that computer programs embodies in a tangible medium, such as floppy diskettes, are patentable subject matter." *In re Beauregard*, 53 E.3d 1583, 1584 (Fed. Cir. 1995). The claims do not expressly recite a signal, and likewise do not recite only a signal, which Applicant submits is required for a determination that a claim falls outside all of the statutory categories. *See, e.g.,* MPEP § 2106(VI)(B).

As such, the Examiner has not shown how Applicant's computer readable medium, as recited in the claims, is not statutory subject matter. Therefore, Applicant's respectfully asserts that claims 17-24 are directed to statutory subject matter and requests withdrawal of rejections.

IV. Rejection under 35 U.S.C. § 102(b)

Applicant relies at least on the following standards with regard to proper rejections under 35 U.S.C. § 102. Notably, anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference. *See, e.g., In re Paulsen,* 30 F.3d 1475, 31 USPQ2d 1671 (Fed. Cir. 1994); *In re Spada,* 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990); *W.L. Gore & Assoc., Inc. v. Garlock, Inc.,* 721 F.2d 1540, 220 USPQ 303, 313 (Fed. Cir. 1983). Alternatively, anticipation requires that each and every element of the claimed invention be embodied in a single prior art device or practice. *See, e.g., Minnesota Min. & Mfg. Co. v. Johnson & Johnson Orthopaedics, Inc.,* 976 F.2d 1559, 24 USPQ2d 1321 (Fed. Cir. 1992). For anticipation, there must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. *See, e.g., Scripps Clinic & Res. Found. v. Genentech, Inc.,* 927 F.2d 1565, 18 USPQ2d 1001 (Fed. Cir. 1991).

A. Final Office Action

i. Claim 1

Claim 1 is drawn to a packet-network analyzer system and features:

"...a host analyzer communicatively coupled to a first client analyzer, wherein the host analyzer incorporates a neural processing module to process raw digital data provided to the host analyzer by the first client analyzer for characterizing a packet-network-under-test that is connected to the first client analyzer."

In rejecting claim 1 under 35 U.S.C. § 102(b), the Final Office Action states, in part:

> Bahadiroglu teaches a single node can be a sending node, a receiving node, or perform both operations [0107]. Bahadiroglu teaches a sending module 12S coupled to a receiving module 12R [0108 and figure 6A] (a host analyzer communicatively coupled to a first client analyzer). Bahadiroglu teaches a Network Analyzer 48 may implemented [sic] as neural network [0109] (wherein the host analyzer incorporates a neural processing module to process raw digital data provided to the host analyzer by the first client analyzer for characterizing a packet-network-under-test that is connected to the first client analyzer).

The Examiner apparently asserts that the host analyzer and the first client analyzer of claim 1 are disclosed by the sending node 12S and the receiving node 12R of *Bahadiroglu*, respectively. *See* Final Office Action, pg. 3. The Examiner further asserts that the Network Analyzer 48, included in the sending node 12S, discloses a neural processing module. *Id.* In particular, *Bahadiroglu* provides that the "Network Analyzer 48 may be implemented as fuzzy logic, or as a neutral network or as a combination of a neural network with fuzzy logic ..." *See* paragraph [0109]; Fig. 6A.

However, the Network Analyzer 48 is not configured to receive and process "raw digital data" provided by the first client analyzer, but rather receives network condition information previously processed by at least the Packet Transfer Engine (PTE) 20TS and/or the Collector/Controller (C/C) 20C. In particular, a PTE (e.g., PTE 20T when

operating in a receiving node) would calculate network condition information by extracting transmission characteristics, "such as available bandwidth, latency and jitter," of packets sent between sending and receiving nodes. *See, e.g.,* paragraph [0113]. The PTE then provides the extracted network condition information to a C/C (*e.g.,* C/C 20C when operating in a receiving node) for determining optimum packet size and inter-packet interval. *See, e.g.,* paragraphs [0109], [0113]. Extracting transmission characteristics, such as available bandwidth, latency and jitter, requires the PTE to process raw data transferred from another node. The information provided to the C/C and ultimately the Network Analyzer 48 is not raw data. Therefore, the network Analyzer 48 as taught by *Bahadiroglu* thus cannot <u>process raw digital data</u> provided to the host analyzer by the first client analyzer for characterizing a packet-network-under-test that is connected to the first client analyzer.

         In addressing this argument, the Examiner stated:

> There is no structural difference between Bahadiroglu's system and the system of the present invention. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Final Office Action, pgs. 13-14. However, Applicant submits that there is a significant structural difference between the system of claim 1 and the *Bahadiroglu* disclosure, since the structure of *Bahadiroglu* prevents the Network Analyzer 48 from receiving (and processing) raw data based on the intervening elements (*i.e.,* the PTE and the C/C). There is no arrangement disclosed by *Bahadiroglu* in which the Network Analyzer 48 can receive raw data, so *Bahadiroglu* does not teach all the limitations of the claim. *See, e.g.,* MPEP § 2114.

ii. Claim 11

         Claim 11 is drawn to a method for analyzing a packet-network-under-test and features:

"... generating a selected data set from the received raw digital data; generating a normalized data set from the selected data set; processing the normalized data set in a neural network to generate a set of rules and relationships; using the set of rules and relationships for mining the selected data set to generate a mined data set; and using the mined data set to characterize the packet-network-under-test. "

In rejecting claim 11 under 35 U.S.C. § 102(b), the Final Office Action states, in part:

> The network condition information is then sent to a Collector/Controller (C/C) 20C, which determines the optimum packet size and inter-packet interval for the current network conditions [0078] (generating a selected data set from the received raw digital data generating a normalized data set from the selected data set). Bahadiroglu teaches the Adaptive Packet Mechanism 20 operates in a preliminary mode to train a neural network to be used in a network analyzer 48 [0112] (processing the normalized data set in a neural network to generate a set of rules and relationships). Bahadiroglu teaches the use of a data mining module by disclosing a Result Database 40 used to store network condition information for archival purposes and subsequent use. The network condition information is stored as a set of Test Result Entries 40E [0135 and figure 6A] (using the set of rules and relationships for mining the selected data set to generate a mined data set; and using the mined data set to characterize the packet-network-under-test).

The Examiner asserted that paragraph [0078] of *Bahadiroglu* teaches generating a normalized data set from the selected data set. *See* Final Office Action, pg. 4. However, *Bahadiroglu* merely discloses the Collector/Controller (C/C 20C) determining optimum packet size and inter-packet interval for network conditions determined by the Packet Transfer Engine (PTE 20T). Determining optimum packet size and inter-packet interval does not teach or suggest generating normalized data (which is then processed in a neural network to generate a set of rules and relationships).

In addressing this argument, the Examiner stated:

> Bahadiroglu teaches the Collector/Controller determines an optimum

> packet size and inter-packet interval for current network conditions.....
> The optimum packet size is scaled (normalized) according to the current
> network conditions.

Final Office Action, pg. 14. However, Applicant submits that determining packet sizes is

not generating normalized data. The specification states, "Normalization is typically

implemented to accommodate a wide range of dynamic values that may occur when

selected subsets of data are obtained from multiple sources." *See* paragraph [0034].

Further, "the normalization process specifies a lower bound and an upper bound of values

for the parameter of interest in the subsets of data, such subsets having been received

from one or more PNUTs that require characterization." *See* paragraph [0035]. Thus,

normalizing provides compatibility among parameters from subsets of data, *e.g.*, obtained

from multiple sources or networks. This is not taught by the Collector/Controller merely

determining an optimum packet size, as disclosed in *Bahadiroglu*.

The Examiner also asserted that Test Result Entries 40E of Result Database 40,

disclosed in paragraph [0135] and Figure 6A of *Bahadiroglu*, teaches using the set of

rules and relationships for mining the selected data set to generate a mined data set, and

using the mined data set to characterize the packet-network-under-test. *See* Final Office

Action, pgs. 4-5. However, *Bahadiroglu* merely discloses storing network condition

information pertaining to a connection between two network nodes in a database (Result

Database 40) for archival purposes. *See* paragraph [0135]. Storing network condition

information does not teach or suggest using rules and relationships (generated by

processing normalized data set in a neural network) to generate a mined data set from the

selected data.

In addressing this argument, the Examiner stated:

> Bahadiroglu's Result Database is used for storage and information
> retrieval (subsequent use). Also, the information stored in the database in
> [sic] is in a particular format (test result entries are placed in a network
> condition record) [0135]. Since the information is stored in the database
> for future use and maintained in a particular format, allowing rules and
> relationships to be used to retrieve information from the database
> Bahadiroglu anticipates the use of data mining techniques.

Final Office Action, pg. 14. However, although *Bahadiroglu* discloses storing network condition information, which may be retrieved for some future use, there is no teaching or suggestion that this information is retrieved using a set of rules and relationships generated by processing the normalized data set in a neural network. The Network Analyzer 48, on which the Examiner relies to teach a neural network, has no disclosed connection with the Result Database 40 with respect to generating rules and relationships to be used for future data retrieval. Therefore, *Bahadiroglu* does not teach or suggest using the set of rules and relationships for mining the selected data set to generate a mined data set and/or using the mined data set to characterize the packet-network-under-test.

iii. Claim 17

Claim 17 is drawn to a packet-network analyzer system stored on a computer-readable medium and features:

" ... *logic configured to generate a selected data set from raw digital data of the packet-network-under-test; logic configured to generate a normalized data set from the selected data set; logic configured to process the normalized data set in a neural network to generate a set of rules and relationships; logic configured to use the set of rules and relationships for mining the selected data set to generate a mined data set; and logic configured to use the mined data set to characterize the packet-network-under-test. method for analyzing a packet-network-under-test.* "

In rejecting claim 17 under 35 U.S.C. § 102(b), the Final Office Action states, in part:

> The network condition information is then sent to a Collector/Controller (C/C) 20C, which determines the optimum packet size and inter-packet interval for the current network conditions [0078] (logic configured to generate a selected data set from raw digital data of the packet-network-under-test; logic configured to generate a normalized data set from the selected data set). Bahadiroglu teaches the Adaptive Packet Mechanism

20 operates in a preliminary mode to train a neural network to be used in a
network analyzer 48 [0112] (logic configured to process the normalized
data set in a neural network to generate a set of rules and relationships).
Bahadiroglu anticipates the use of a data mining module by disclosing a
Result Database 40 used to store network condition information for
archival purposes and subsequent use. The network condition information
is stored as a set of Test Result Entries 40E [0135 and figure 6A] (logic
configured to use the set of rules and relationships for mining the selected
data set to generate a mined data set; and logic configured to use the
mined data set to characterize the packet-network-under-test).

As discussed above with respect to claim 11, the Examiner asserted that

paragraph [0078] of *Bahadiroglu* teaches generating a normalized data set from the

selected data set, and that asserted that Test Result Entries 40E of Result Database 40,

disclosed in paragraph [0135] and Figure 6A of *Bahadiroglu*, teaches using the set of

rules and relationships for mining the selected data set to generate a mined data set, and

using the mined data set to characterize the packet-network-under-test. *See* Final Office

Action, pg. 5. Accordingly, Applicant respectfully submits that *Bahadiroglu* does not

teach or suggest at least these claim features for substantially the same reasons discussed

above with respect to claim 11.

iv. Claim 21

Claim 21 is drawn to a packet-network analyzer system stored on a computer-
readable medium and features:

" ... *means for generating a selected data set from raw digital data of the packet-
network-under-test; means for generating a normalized data set from the selected data
set; means for processing the normalized data set using a neural network to generate a
set of rules and relationships; means for using the set of rules and relationships for
mining the selected data set to generate a mined data set; and means for using the mined
data set to characterize the packet-network-under-test.* "

In rejecting claim 21 under 35 U.S.C. § 102(b), the Final Office Action states, in
part:

> The network condition information is then sent to a Collector/Controller
> (C/C) 20C, which determines the optimum packet size and inter-packet
> interval for the current network conditions [0078] (means for generating a
> selected data set from raw digital data of the packet-network-under-test;
> means for generating a normalized data set from the selected data set).
> Bahadiroglu teaches the Adaptive Packet Mechanism 20 operates in a
> preliminary mode to train a neural network to be used in a network
> analyzer 48 [0112] (means for processing the normalized data set using a
> neural network to generate a set of rules and relationships). Bahadiroglu
> teaches the use of a data mining module by disclosing a Result Database
> 40 used to store network condition information for archival purposes and
> subsequent use. The network condition information is stored as a set of
> Test Result Entries 40E [0135 and figure 6A] (means for using the set of
> rules and relationships for mining the selected data set to generate a mined
> data set; and means for using the mined data set to characterize the packet-
> network-under-test).

As discussed above with respect to claim 11, the Examiner asserted that
paragraph [0078] of *Bahadiroglu* teaches generating a normalized data set from the
selected data set, and that asserted that Test Result Entries 40E of Result Database 40,
disclosed in paragraph [0135] and Figure 6A of *Bahadiroglu*, teaches using the set of
rules and relationships for mining the selected data set to generate a mined data set, and
using the mined data set to characterize the packet-network-under-test. *See* Final Office
Action, pg. 6. Accordingly, Applicant respectfully submits that *Bahadiroglu* does not
teach or suggest at least these claim features for substantially the same reasons discussed
above with respect to claim 11.

B. Rejections Improper

For at least the reasons set forth above, Applicant respectfully submits that a
proper *prima facie* case of anticipation has not been established because the applied art

Agilent.0079   Docket No. 10021131-01

does not disclose at least one feature of each of claims 1, 11, 17 and 21. Therefore, claims 1, 11, 17 and 21 are patentable over the applied art, and claim 2, which depends from claim 1, is patentable for at least the same reasons.

V. through X. Rejections under 35 U.S.C. § 103(a)

Applicant has reviewed the rejections of claims 3-10, 12-16, 18-20 and 22-24 under 35 U.S.C. § 103(a). While Applicant does not concede the propriety of these rejections, because all claims rejected for obviousness depend, directly or indirectly, from claims 1, 11, 17 or 21, respectively, these claims are patentable for at least the same reasons discussed above, and in view of their additional subject matter.

8. Conclusion

In view of the foregoing, Applicant respectfully requests: the withdrawal of all objections and rejections of record; the allowance of all pending claims; and the holding of the application in condition for allowance.

Respectfully submitted on behalf of:
Agilent Technologies, Inc.
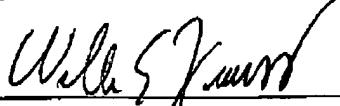
by: William S. Francos (Reg. No. 38,456)
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Appendix

Claims on Appeal

1. A packet-network analyzer system comprising a host analyzer communicatively coupled to a first client analyzer, wherein the host analyzer incorporates a neural processing module to process raw digital data provided to the host analyzer by the first client analyzer for characterizing a packet-network-under-test that is connected to the first client analyzer.

2. The packet-network analyzer system of claim 1, wherein the host analyzer comprises:

a data collection element that receives the raw digital data from the first client analyzer;

a data selection element that generates a selected data set from the raw digital data;

a data processing element that processes the selected data set to generate a normalized data set;

wherein the neural processing module that processes the normalized data set to generate a set of rules and relationships; and

a data mining module that uses the set of rules and relationships to generate a mined data set from the selected data set, wherein the mined data set is used to characterize the packet-network-under-test.

3. The packet-network analyzer of claim 2, wherein the neural processing module comprises a fast neural classifier that is derived from ART.

4. The packet-network analyzer of claim 3, wherein the neural processing module further comprises a rules and relationship extraction module that uses a modified CHAID scheme.

5. The packet-network analyzer system of claim 2, wherein the neural processing module processes the normalized data set using ART, and the set of rules and

Agilent.0079   Docket No. 10021131-01

relationships is generated by the neural processing module using a modified CHAID scheme.

6. The packet-network analyzer system of claim 5, wherein the first client analyzer uses XML to transport the raw digital data of the packet-network-under-test to the data collection element.

7. The packet-network analyzer system of claim 6, wherein the packet-network-under-test is an IP network.

8. The packet-network analyzer system of claim 6, wherein the packet-network-under-test is a subnet of the Internet.

9. The packet-network analyzer system of claim 2, wherein the data collection element of the host analyzer comprises a HTTP server using XML to communicatively couple the host analyzer via a packet network to the first client analyzer, and wherein the first client analyzer uses XML to transport the raw digital data of the packet-network-under-test to the host analyzer.

10. The packet-network analyzer system of claim 7, wherein the host analyzer is communicatively coupled to a second client analyzer that is communicatively coupled via a packet network to a third client analyzer, and wherein the third client analyzer uses XML over HTTP to transmit raw digital data to the second client analyzer for characterizing a second packet-network-under-test that is connected to the third client analyzer.

11. A method for analyzing a packet-network-under-test, comprising:
receiving raw digital data that is derived from a packet-network-under-test;
generating a selected data set from the received raw digital data;
generating a normalized data set from the selected data set;

processing the normalized data set in a neural network to generate a set of rules
and relationships;

using the set of rules and relationships for mining the selected data set to generate
a mined data set; and

using the mined data set to characterize the packet-network-under-test.

12. The method of claim 11, wherein the step of receiving raw digital data
incorporates the use of XML over HTTP as a transmission protocol.

13. The method of claim 12, wherein the normalized data set is generated using
ART, and the set of rules and relationships is generated using a modified CHAID
scheme.

14. The method of claim 13, wherein characterizing the packet-network-under-
test comprises generating a performance metric of transmission of data packets through
the packet-network-under-test.

15. The method of claim 14, wherein the packet-network-under-test is an IP
network.

16. The method of claim 14, wherein the packet-network-under-test is a subnet of
the Internet.

17. A packet-network analyzer system stored on a computer-readable medium,
the analyzer comprising:

logic configured to receive raw digital data that is derived from a packet-network-
under-test;

logic configured to generate a selected data set from raw digital data of the
packet-network-under-test;

logic configured to generate a normalized data set from the selected data set;

logic configured to process the normalized data set in a neural network to generate a set of rules and relationships;

logic configured to use the set of rules and relationships for mining the selected data set to generate a mined data set; and

logic configured to use the mined data set to characterize the packet-network-under-test.

18. The analyzer system of claim 17, wherein the logic configured to receive raw digital data incorporates the use of XML over HTTP as a transmission protocol.

19. The analyzer system of claim 18, wherein the logic configured to generate the normalized data set uses ART, and the logic configured to process the normalized data set in the neural network uses a modified CHAID scheme.

20. The analyzer system of claim 19 wherein the logic configured to receive raw digital data incorporates logic to interface to the Internet.

21. A packet-network analyzer system stored on a computer-readable medium, the analyzer comprising:

means for receiving raw digital data that is derived from a packet-network-under-test;

means for generating a selected data set from raw digital data of the packet-network-under-test;

means for generating a normalized data set from the selected data set;

means for processing the normalized data set using a neural network to generate a set of rules and relationships;

means for using the set of rules and relationships for mining the selected data set to generate a mined data set; and

means for using the mined data set to characterize the packet-network-under-test.

22. The analyzer system of claim 21, wherein the means for receiving raw digital data incorporates the use of XML over HTTP as a transmission protocol.

23. The analyzer system of claim 22, wherein the means for generating the normalized data set uses ART, and the means for processing the normalized data set using the neural network uses a modified CHAID scheme.

24. The analyzer system of claim 23, wherein the means for receiving raw digital data incorporates means to interface to the Internet.

Appendix

Evidence (None)

Appendix

Related Proceedings (None)

Agilent.0079

Docket No. 10021131-01

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